

# RTO Technical Publications:

a quarterly listing

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**20000059204** Research and Technology Organization, Information Management Committee, Neuilly-sur-Seine, France

**AGARD Index of Publications, 1995-1998** *AGARD Index des Publications, 1995-1998*

April 2000; 610p; In English; CD-ROM contains full text document in PDF format

Report No.(s): RTO-AGARD-INDEX-95-98; AC/323(IMC)TP/1; ISBN 92-837-1038-X; Copyright Waived; Avail: CASI; A99, Hardcopy; A06, Microfiche; C01, CD-ROM

This volume provides abstracts and indexes for AGARD unclassified publications published during the period 1995-1998. Full bibliographical citations and abstracts for all the documents in this publication are given in the abstract section, which is organized in the major subject divisions and specific categories used by NASA in abstract journals and bibliographies. The subject divisions and categories are listed separately, together with a note for each that defines its scope and provides any cross-references. Category breaks in the abstract section are identified by category number and title, and a scope note. Within each category, the abstracts are arranged by document ID number. Six indexes - Subject (based on NASA Thesaurus nomenclature), Personal Author, Panel, Report Number, ISBN and Document ID Number - are included. This publication was sponsored by the Information Management Committee (IMC) of RTO, and compiled by NASA's Center for AeroSpace Information (CASI). This volume completes the series of paper indexes of AGARD publications for 1952-1998.

Derived from text

*Bibliographies; North Atlantic Treaty Organization (NATO); Indexes (Documentation); Aerospace Engineering; Documents; Research and Development; Aerodynamics*

**20000061419** Research and Technology Organization, Applied Vehicle Technology Panel, Neuilly-sur-Seine, France

**Aerodynamic Design and Optimisation of Flight Vehicles in a Concurrent Multi-Disciplinary Environment** *la Conception et l'Optimisation Aerodynamiques des Vehicules Aeriens Dans un Environnement Pluridisciplinaire et Simultane*

Aerodynamic Design and Optimisation of Flight Vehicles in a Concurrent Multi-Disciplinary Environment; June 2000; 385p; In English, 18-21 Oct. 1999, Ottawa, Canada; See also 20000061420 through 20000061451; CD-ROM contains full text document in PDF format

Report No.(s): RTO-MP-35; AC/323(AVT)TP/15; ISBN 92-837-1040-1; Copyright Waived; Avail: CASI; A17, Hardcopy; A04, Microfiche; C01, CD-ROM

The Symposium dealt with Design Issues and more specifically Aerodynamic Design and Optimization of Flight Vehicles in a Concurrent Multi-Disciplinary Environment. Thirty two papers and a Keynote address were presented with the objective to survey the current and future scene given the trend towards a more concurrent and multi-disciplinary approach to aerospace vehicle engineering. There were six sessions covering the following topics: Lessons Learnt/Requirements for the Future Regard to the Role of Aerodynamicists in a Concurrent Multi-Disciplinary Design Process; The Role of Aerodynamics in Concept Phase

of a Project Design; MDO and the Aerodynamics Design Process; Methodologies/Tools for Aerodynamic Optimisation; Application of Methodologies/Tools for Aerodynamic Optimisation; Techniques for Rapid Database Generation.

Author

*Conferences; Aerodynamics; Design Analysis; Flight Optimization*

**20000089819** Research and Technology Organization, Human Factors and Medicine Panel, Neuilly-sur-Seine, France

**Damage Risk from Impulse Noise** *Les Risques Auditifs et Extra Auditifs des Bruits Impulsionnels*

September 2000; 84p; In English, 5-6 Jun. 2000, MD, Meppen, USA, Germany; See also 20000089820 through 20000089826; CD-ROM contains full text document in PDF format

Report No.(s): RTO-EN-11; AC/323(HFM)TP/31; ISBN 92-837-1042-8; Copyright Waived; Avail: CASI; A05, Hardcopy; A01, Microfiche; C01, CD-ROM

This publication comprises papers from an RTO Lecture Series on Damage Risk From Impulse Noise. High-level impulse noise (weapons noise) can cause auditory as well as non-auditory damage, which may limit combat effectiveness and may result in communication impairments as a consequence of noise-induced hearing loss. Recent research has shown that the present damage risk criteria have to be adjusted. This has major implications for the protective measures that have to be taken when using weapon systems. Protection equipment can be very effective when properly used, but everyday practice shows that the results in the field fall short of what could be achieved. In addition, hearing protection may interfere with communication. New developments in the design of hearing protectors: level dependent, active noise reduction show how the protection and communication requirements can be combined and satisfied. Educational programs, emphasizing the new developments, may help to improve the effectiveness of hearing conservation and reduce the number of non-auditory accidents. Topics covered by individual papers are: techniques and procedures for the measurement of impulse noise . a draft ANSI standard on auditory risk criteria, performance of hearing protectors, communication and localisation with hearing protectors, individual susceptibility to noise-induced hearing loss, new perspectives in the treatment of acute noise trauma, cost effectiveness of hearing conservation programmes, and non-auditory damage risk assessment for impulse noise.

Author

*Active Control; Cost Effectiveness; Damage Assessment; Impulses; Noise Measurement; Noise Reduction; Protection*

**20000091427** Research and Technology Organization, Neuilly-sur-Seine, France

**Multi-Lingual Interoperability in Speech Technology** *l'Interoperabilite Multilinguistique dans la Technologie de la Parole*

August 2000; 151p; In English, 13-14 Sep. 1999, Leusden, Netherlands; See also 20000091428 through 20000091447; CD-ROM contains full text document in PDF format

Report No.(s): RTO-MP-28; AC/323(IST)TP/4; ISBN 92-837-1044-4; Copyright Waived; Avail: CASI; A08, Hardcopy; A02, Microfiche; C01, CD-ROM

Communications, command and control, intelligence, and training systems are more and more making use of speech technology components: i.e. speech coders, voice controlled C2 systems, speaker and language recognition, and automated training suites. Interoperability of these systems is not a simple standardisation problem as the speech of each individual user is an uncontrolled variable such as non-native speakers using, additional to their own language, an official NATO language. For international operations, this may cause a reduced performance or even cause malfunction of an action. In order to address these topics a two-day workshop was organized focussed on the following subjects: Non-native speech and regional accents; Cross language speech processing; Identification of language and speaker; Human Perception and Assessment. This document presents the proceedings of the workshop and consists of twenty papers, four discussion reports and a final overview.

Author

*Speech Recognition; Coders; Standardization; Control Systems Design*

**20000092064** Research and Technology Organization, Human Factors and Medicine Panel, Neuilly-sur-Seine, France

**Kingdom in the Sky - Earthly Fetters and Heavenly Freedoms. The Pilot's Approach to the Military Flight Environment** *le Royaume au Ciel - Fers Terrestres et Libertes Celestes. La Demarche du Pilote vis a vis de l'Environnement Aeronautique Operationnel*

Ponomarenko, V., Research and Technology Organization, France; Boubel, T., Editor, Research and Technology Organization, France; Ercoline, W., Editor, Research and Technology Organization, France; July 2000; 162p; In English; CD-ROM contains full text document in PDF format; Translator: I. Malinin

Report No.(s): RTO-AG-338; AC/323[HFM]TP/5; ISBN 92-837-1041-X; Copyright Waived; Avail: CASI; A08, Hardcopy; C01, CD-ROM

This book provides insight from a Russian perspective into the psychology of the flyers (pilot and other aircrew members), and their constant struggle to cope with the procedures dictated by ground-based directors while enjoying the thrill and emotional high of flight. The author takes the reader through the turmoil of flight emergencies, unpopular ground-directed missions, and, ultimately, aircraft mishaps. He describes the difficult conditions placed upon the flyers by a system inadequately prepared to address human factor issues, and points out that it is the responsibility of those on the ground to improve the conditions of the flyer. Those improvements can come from knowledge based on research and appreciation of the flyers' mission. Chapter 1 provides details of the problems associated with aircraft accident investigations and the impact these can have on the flyer's dignity. Chapter 2 describes many of the dangers associated with flight, as well as the skills necessary to overcome those hazards. Chapter 3 describes the current state of human factor issues and flight safety. Chapter 4 deals with ergonomics and their relationship with flight safety. Chapter 5 matches the role of the flight surgeon with the operational requirements of the flyers. Chapter 6 identifies the problems encountered when one is too conservative toward a profession that requires radical, rapid, and sometimes fatal in flight decisions. Chapter 7 explains how the flyer can maintain a healthy body and mind. Chapter 8 summarizes the research and lessons learned by the author while working with the flyer and within the establishment.

Author

*Aircraft Accident Investigation; Flight Safety; Flight Crews; Aviation Psychology; Aircraft Accidents; Pilot Training; Russian Federation; Histories*